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CENTRAL INTELLIGENCE AGENCY

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C-O-N-F-I-D-E-N-T-I-A-L

COUNTRY Poland

REPORT

SUBJECT 1. Surveying Agencies and Practices
2. Soviet Army Construction Site

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1. [redacted] report which deals with Polish governmental agencies in the Main Administration of Geodesy and Cartography and gives miscellaneous information on work projects, surveying instruments, references and manuals, training and educational standards, disposition of finished maps and survey data, financial matters, marginal geodetic and surveying technical information, and personality sketches of four key civilians. The information pertains almost entirely to civil surveying at the level of a voivodship branch office. The report also gives information on the sighting of a possible Soviet Army construction site on the Baltic Sea coast of Poland and a nearby antenna installation.

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ARMY review completed.

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SURVEYING AGENCIES AND PRACTICES IN POLAND (C);
AND A SOVIET ARMY CONSTRUCTION SITE

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Summary: This report deals with Polish governmental agencies in the Main Administration of Geodesy and Cartography (Glowny Urzad Geodezji i Kartografji - GUGiK), and gives miscellaneous information on work projects, surveying instruments, references and manuals, training and educational standards, disposition of finished maps and survey data, financial matters, marginal geodetic and surveying technical information, and personality sketches of four key civilians. The information contained herein pertains almost entirely to civil (not geodetic) surveying at the level of a provincial branch office (the Gdansk Branch). It also contains a report on the sighting of a possible Soviet Army construction site on the Baltic Sea coast of Poland, and a nearby antenna installation.

CONT'D

CONFIDENTIAL

25X1

25X1

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CONFIDENTIAL

-2-

25X1

SURVEYING AGENCIES AND PRACTICES IN POLAND (C)

Introduction

This report is primarily concerned with the activities of the Gdansk Branch (Wydział Gdańsk) of the Poznan State Enterprise of Surveying (Poznanskie Okręgowe Przedsiębiorstwo Miernicze - POPM), which was a field branch office of the Main Administration for Geodesy and Cartography (Główny Urząd Geodezji i Kartografii - GUGiK). 1.

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The following is a list of locations mentioned in this report, together with the coordinates for each.

DEBRZNO	(N53-32, E17-14)	(UTM XV-4835)
JURATA	(N54-42, E18-43)	(UTM CF-5631)
KOSCIERZINA	(N54-07, E17-59)	(UTM XA-9402)
KOSZALIN	(N54-12, E16-11)	(UTM WA-7507)
LODZ	(N51-45, E19-28)	(UTM CC-9535)
LONKEN	(N54-10, E17-35)	(UTM XA-7004)
MYSZENO (MAUSDORF)	(N54-08, E19-10)	(UTM CF-8000)
NOWA HUTA	(N50-05, E20-04)	(UTM DA-3350)
POZNAN	(N52-25, E16-58)	(UTM XU-3108)
PRUSZCZ	(N54-16, E18-38)	(UTM CF-4616)
WEJHEROWO	(N54-36, E18-14)	(UTM CF-2154)
WIELICZKA	(N49-59, E20-04)	(UTM DA-3237)
WLADYSLAWOWO	(N54-48, E18-25)	(UTM CF-3575)
ZBLEWO	(N53-56, E18-20)	(UTM CE-2680)
STALINOGORSK, USSR	(N54-05, E38-14)	

A. CIVIL AND GEODETIC SURVEYING AGENCIES AND PRACTICES

1. Partial Organization and Structure of the Main Administration for Geodesy and Cartography (GUGiK)

a. Mission and History

GUGiK was a civilian surveying organization subordinate to the Ministry of Internal Affairs (Ministerstwo Spraw Wewnętrznych). It was responsible for all civilian surveying activities in Poland, including research and development,

CONFIDENTIAL

CONFIDENTIAL

-3-

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triangulation and leveling of all orders, publication of maps and manuals, cadastral and civil surveying, and maintenance and operation of archives. [redacted]

[redacted] its surveying responsibilities and activities stopped at the boundaries of military installations, inside of which the military surveying administration

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[redacted] was wholly responsible. [redacted] Prior to the Gomulka regime, GUGIK was an independent organization at ministerial level. Prior to 1957, GUGIK had been called "Central Administration for Geodesy and Cartography" (Centralny Urzad Geodezji i Kartografji).

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As of April 1958, GUGIK headquarters was located in a newly constructed building at 2-4 Ulica Jasna in WARSAW. The building was built in 1954 or 1955 and was owned by GUGIK. It was about 40 to 50 x 15 m, and had about 5 or 6 stories. Entrance to the building was controlled by a civilian information clerk at the main door. [redacted]

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b. Headquarters

The chairman (Prezes) was Boris SZMELIW, who replaced RABANOWSKI, (fmu), in about 1954 or 1955. The latter was transferred to a different Ministry (probably the Communications Ministry) and died in late 1957. There were several deputy chairmen (Vice Prezes) [redacted]

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(1) Planning Department (Departament Planowania)

The Director of this department since at least 1952 was Jerzy SZYMANSKI. This department received and processed the work requests from other ministries, decided what jobs to accept, and allocated the work within the GUGIK organization.

(2) Personnel Department (Departament Kadr)

(3) Finance Department (Departament Finansow)

(4) Technical Department (Departament Techniki)

[redacted] could identify no personnel who worked in this department, [redacted] it developed surveying techniques, prepared manuscripts of technical manuals for publication, conducted experimental work, and compiled triangulation and leveling data.

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c. State Cartographic Publishing Enterprise (Panstwowe Przedsiębiorstwo Wydawnictw Kartograficznych)

[redacted] subordinate to GUGIK, and [redacted] in 1955 or 1956, it had won first place in an unknown type of socialist competition.

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d. Scientific Geodetic Institute [redacted]

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This was located in WARSAW [redacted] did not know the exact location, except that it was not in the same building with GUGIK headquarters. [redacted]

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CONFIDENTIAL

CONFIDENTIAL

-4-

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e. State Photogrammetrical Enterprise

[redacted] many references to this organization, all of which dealt only with plane table surveys at the scale of 1:100,000. There were no photogrammetric surveying activities in Poland

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f. State Geodetic Enterprise

This organization was located in the same building with GUGIK headquarters in WARSAW. [redacted] it was responsible for all geodetic and leveling work in Poland.

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g. Civil Surveying Field Offices

[redacted] the field offices dealt directly with whatever section of GUGIK headquarters was concerned with their immediate problems. The provincial and district field offices were named after the city in which they were located. The following Civil Surveying Field Offices had been in operation at the following locations since 1949:

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(1) Poznan District Enterprise of Surveying (POPM)

This headquarters (Dyrekcja) was located, prior to 1951, in GDANSK, together with its Gdansk Branch. The director in April 1958 was Boleslaw LAMBUI. It employed 30 to 40 persons, and included the following sections (Dzial):

Planning (Planowania) (Chief of Section was JUDKA, (fmu)).

Personnel (Personalny)

Bookkeeping (Księgowości). The chief of section was SZLAZAK, (fmu).

Production (Produkcji). The chief of section was WOJCIECHOWSKI, (fmu).

Technical Control (Kontroli Technicznej). The chief of section was Jerzy DOBRZYNSKI.

Housekeeping (Gospodarczy).

Labor and Wages (Pracy i Placy)

(a) Gdansk Branch

[redacted] This branch was responsible for civil and cadastral surveying, and some third order triangulation, in the provinces (Województwo) of Gdansk and Koszalin. The Gdansk Branch office was located in GDANSK/LANGFUHR at number 114 Allee Grunwaldzka (see Annex A). The chief (Kierownik) since 1952 was Tadeusz DOBROWSKI. His deputy since 1957 was Jan CIESLIKIEWICZ, who replaced JAWORSKI upon the latter's death. The Gdansk Branch was composed of the following:

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CONFIDENTIAL

CONFIDENTIAL

-5-

25X1

1. Finance Section (Likwidatura)

This consisted of a senior bookkeeper and a cashier. The latter was also responsible for calculating, and keeping a record of, the working norms and their stage of fulfillment.

2. Personnel Clerk3. Supply Clerk

This clerk was responsible for the supply room where the surveying instruments were stored, and was also responsible for the vehicles which belonged to the Gdansk Branch, two trucks and two passenger vehicles.

4. Typist and Telephone Operator (Female)

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5. Secretary to DOBROWSKI and CIESLIKIEWICZ6. Civilian Guard (Not armed)7. Charwoman8. Technical Documentation (Dokumentacja Techniczna)

The chief of this section was Tadeusz FILIPOWICZ [redacted]. Their duties consisted of preparing work and cost estimates for all the jobs undertaken by the Gdansk Branch, procurement of necessary reference material such as triangulation point coordinates and leveling bench mark data, consultation with the requesting agency for any necessary clarification of instructions, and liaison with other agencies for technical matters and approval of work at various stages of completion.

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9. Technical Control (Kontrola Techniczna)

This was the section of surveyors and draftsmen. There were three senior surveyors (Inspekтора), all of whom had been in this job since 1949, when the existing organization was formed. They were ZOLOBINSKI, GRZYBOWSKI, and OSKO, and each had under his jurisdiction 8 to 10 surveyors and draftsmen. The three senior surveyors organized, supervised, and inspected all field and drafting work. In addition to the technical personnel, this section included about 15 permanently-employed unskilled workers. During the summer surveying season, additional workers were hired, making the total of unskilled workers from 40 to 60.

(b) Bydgoszcz Branch, responsible for the province of Bydgoszcz.

(c) Szczecin Branch, responsible for the province of Szczecin.

(d) Poznan Branch, responsible for the provinces of Poznan and Zielona Gora.

(2) Warsaw OPM

(a) Warsaw Branch I. responsible for approximately one-half of Warsaw province [redacted]

25X1

CONFIDENTIAL

CONFIDENTIAL

- 6 -

25X1

(b) Warsaw Branch II, responsible for the remaining half of Warsaw Province which was not covered by Warsaw Branch I.

(c) Bialystok Branch, responsible for the province of Bialystok.

(3) Lodz OPM

Prior to 1956 or 1957, this OPM headquarters was located in KIELCE.

(a) Lodz Branch, responsible for Lodz Province.

(b) Kielce Branch, responsible for Kielce Province.

(c) Lublin Branch, responsible for Lublin Province.

(4) Krakow OPM

(a) Krakow Branch, responsible for the provinces of Krakow and Rzeszow.

(b) Nowa Huta Branch, responsible for the surveying activities at the construction project of the Lenin Steel Works at NOWA HUTA.

(5) Katowice OPM

(a) Katowice Branch, responsible for Katowice Province.

(b) Wroclaw Branch, responsible for the provinces of Wroclaw and Opole.

h. Field Representatives (Delegatura) of GUGiK

In each provincial capital city [redacted], there was a field representative office (Delegatura) of the central headquarters of GUGiK, staffed entirely by civilians. They maintained surveying data reference files pertaining to the province in which they were located, including topographic map files (1:25,000 and 1:100,000, all classified SECRET), trig listings (see Annex B for illustrative example of a trig list), leveling data, and copies of sketches showing the precise location and description of all bench marks and triangulation monuments (see Annex C for illustrative example of such a sketch). This data was available, upon presentation of proper authorization (a letter of request or a requisition), for issue to all field surveying agencies, including POPM and the Gdansk Branch. However, the files could be used only for reference and could not be taken from the Delegatura office. [redacted]

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These Delegatura offices were also responsible for confirming and approving all triangulation and leveling data which appeared in final form on work done in their areas of responsibility by the field surveying agencies. [redacted]

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(1) Delegatura in GDANSK

This office consisted of five persons: the chief was Mieczyslaw RAWINSKI and his assistant was ZEJDEL, (fmu). There were two other unidentified

25X1

CONFIDENTIAL

CONFIDENTIAL

-7-

25X1

professional men and one clerk-typist. [redacted] this office seemed to be overstaffed in relation to the work load. [redacted]

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(2) Delegatura in KOSZALIN

[redacted] This office consisted of three persons, but the [redacted]; chief, JANKOWSKI, (fmu). [redacted]

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2. Projects of the Gdansk Branch

[redacted] personnel, equipment and vehicles were sometimes transferred temporarily from one branch or OPM to another, in order to satisfy work requirements. Some actual work projects of the Gdansk Branch are given below, as a possible indicator of capability.

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a. Civil Survey of the Ports of GDANSK and GDYNIA

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This job was contracted for directly with the port authorities of GDANSK and GDYNIA. The job was begun in the spring of 1956 and completed in the summer of 1957. Both ports were mapped partly at the scale of 1:5,000 and partly at 1:1,000, the latter scale being transposed from old surveys. The final maps and plans were classified SECRET, and showed all construction and details of the specific areas shown in Annex D. The job required a working force of 10 to 12 surveyors, each with his own crew, and 4 to 6 computers and draftsmen. The original cost estimate of this job was less than 300,000 zlotys, but with additional requirements, imposed while the work was in progress, the final cost of the job came to about 550,000 zlotys.

b. Forest District Surveys

[redacted] in April 1958, the Gdansk Branch was engaged in surveying eight separate forest districts (Nadleśnictwa) in the counties (Powiat) of Lebork and Wejherowo. These maps were being prepared for the Forestry Ministry (Ministerstwo Lesnictwa) at the scale of 1:5,000, with no topography shown. Roads, streams, man-made objects, boundaries of forested areas, and cleared lanes through the forests were shown. [redacted]

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[redacted] these maps would be used later as the basis for a complete and detailed timber cruise and vegetative survey, to be prepared by the Forestry Ministry. Maximum allowable traverse error in the survey by the Gdansk Branch was 10 cm.

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(1) Lebork County

(a) Leba Forest District (See Annex E for approximate area under survey.)

The survey of this area was completed by April 1958. The cost estimate was about 1,000,000 zlotys. Five or six surveying crews were assigned to this job.

(b) Cewice Forest District (See Annex F.)

The cost estimate was about 800,000 zlotys. Two surveying crews were assigned to this job. [redacted] with luck, this job might be finished by the end of 1958.

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CONFIDENTIAL

CONFIDENTIAL

-8-

25X1

(c) Bozepole Forest District (See Annex G.)

This job was completed by April 1958. The cost estimate was 800,000 to 850,000 zlotys. Three surveying crews were assigned to this job.

(d) Choczew Forest District (See Annex H.)

This job was started in April 1958, and [redacted] estimated that it would be finished by May 1959. Three surveying crews were assigned to this job.

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(2) Wejherowo County

Field work had not been started in this county as of April 1958, and the cost estimate of only one forest district had been made. It consisted of four separate forest districts: Chylonia, Kamien, Gora, and Kolkowo, of approximately 5,000 hectares each (see Annexes I and J). There was some discussion in the office of the Gdansk Branch about transferring Chylonia and Kamien Forest Districts to the Warsaw OPM for surveying, but no decision was reached as of April 1958. Of the four forest districts, the Chylonia District, which was estimated at 600,000 to 700,000 zlotys, was considered the hardest job, since the topography was hilly and the city of GDYNIA was adjacent to its boundaries, with a correspondingly large number of structures.

c. Highway Survey (ZBLEWO-KOSCIERZYNA-LONKEN)

This job was a strip survey about 40 m wide, at the scale of 1:2,000, for the purpose of realigning and widening the old road. It was begun in the spring of 1955 and completed at the end of 1956. The total cost was about 530,000 zlotys. The number of surveying crews on this job varied from one to three. Accuracy on this job (one centimeter in traverse) was high in order to ascertain the exact payments to be made for private land which was to be appropriated by the government.

d. Hela Peninsula Road Survey

This job was undertaken in the summer of 1957 under contract with the District Administration of Public Roads (Wojewodski Zarzad Drog Publicznych). The field work was completed that same year, and the entire job, including the paper work, was almost completed by April 1958. It was a 1:2,000 strip survey of the road on the Hela Peninsula from WLADYSLAWOWO to near JURATA, made for the purpose of widening and realigning the road, and for determining the new right-of-way, with accuracy held to within one centimeter. No military features were shown.

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[redacted] the length of road surveyed was 20 km
[redacted] the crew had mentioned to him that the survey crew had

e. Third Order Triangulation Re-Surveys

In 1952, 1953, and 1954, the Gdansk Branch ran several third order triangulation re-surveys for the purpose of locating and verifying old triangulation stations. These jobs were assigned to the Gdansk Branch directly from GUGIK headquarters, and [redacted] they were paid for directly from GUGIK budgetary funds. The re-surveys were necessary not only to reestablish the monuments in the field, but in many cases to determine the coordinate data, because many coordinate files were lost during WW II. They included surveys in the areas near DEERZNO, KOLOBRZEG, PRUSZCZ, WEJHEROWO, and MYSZEW. In 1952 and 1953, the Gdansk office

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CONFIDENTIAL

CONFIDENTIAL

-9-

25X1

sent several crews to work on the same type of triangulation re-surveys in the Warsaw and Olsztyn areas, near the mountain Borowa Gora (at coordinates UTM CB-9487). The crews varied in number from 5 to 10, and worked in this area for about two years. [] this type of re-survey was made at this time throughout Poland and [] all triangulation monuments and bench marks in Poland were re-stated by 1954.

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[] incident. In 1953 or 1954, a crew from the Gdansk Branch was running a triangulation re-survey in the area between GDANSK and PRUSZCZ. While looking for an old triangulation station near a road intersection, the crew found a newly installed monument which they presumed had been installed by the field crews of the State Enterprise of Geodesy. This monument was in approximately the correct position, according to the available reference notes, and the Gdansk Branch crew, already in possession of the coordinates of the triangulation point, used this monument to tie in the rest of the survey. The tie-in computations did not check out correctly, and after several months, during which the traverse was re-run several times, and the computations and the paper work were verified many times, the crew chief finally decided to verify the location of the newly installed monument. Working from the available reference notes, the calculated site of the triangulation point was found to be several meters distant from the newly installed monument. Although this site was bare of any indication that there had been a monument here at any time, the crew chief had his men dig down to a depth of about one meter, where they found the concrete base plate (Pleta) of the original monument. Based on the corrected site of the triangulation point, the survey that was being run checked out. The error was reported to GUGiK headquarters. [] similar mistakes made by the State Enterprise of Geodesy were uncovered several times. [] the personnel of the Gdansk Branch presumed that whoever had installed the monument had apparently been too lazy or in too much of a hurry to try to locate the original base plate by digging, and had merely guessed at the correct location of the triangulation point.

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f. Land Surveys of State Farms

From 1953 to 1956, the Gdansk Branch made at least 50 boundary surveys of state farms in the provinces of Gdansk and Koszalin. These were made at the scale of 1:5,000, and showed boundaries, wooded areas, and water features, but did not show topography or structural improvements. They varied in extent from 300 to 700 hectares.

g. Small Civil Surveys

From 1949 on, during the first years of the existence of the Gdansk Branch, it made from 50 to 100 small (3 to 5 hectares each) surveys each year for specific construction projects. The number decreased from year to year, until, by 1957, only four or five of these small jobs were undertaken.

h. Malbork Airfield Survey

In 1955 or 1956, the Gdansk Branch received an order to make a boundary survey of an old German airfield near MALBORK. The survey was to locate the new boundaries of the airfield, which was undergoing expansion, and consisted of a detailed survey of a 350-meter-wide strip around the outside of the boundaries, but no work within the perimeter. []

25X1

CONFIDENTIAL

CONFIDENTIAL

-10-

25X1

[Redacted]

i. Railroad Survey

Beginning in 1955, the Gdansk Branch had been engaged in a survey of all existing narrow-gauge railroad lines in the southern portion of the former free city of DANZIG enclave. Part of the survey was completed as of April 1958. It was made at the scale of 1:2,000, and included location of right-of-way markers, an alignment and area survey, and a profile survey which was made separately after the alignment survey. The area survey included a strip about 25 to 30 m wide. The maximum distance between markers was 200 m.

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3. Instruments Used by the Gdansk Branch of POPM

[Redacted] there was no standard authorized level for equipment issue. Equipment (and personnel) could be, and often were, transferred from one branch to another, and from one enterprise to another, according to need. The Gdansk Branch had no plane tables or theodolites. Minor repair of surveying instruments was performed by a technician in POPM, who periodically made the rounds of the branches subordinate to POPM. Major repair was accomplished by sending the instruments directly from the Gdansk Branch to GUGiK headquarters or to another unidentified establishment in WARSAW.

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The surveying and drafting instruments which were available in the supply room of the Gdansk Branch included:

Heide transits 8 to 10

Wild transits 3 or 4

Gerlach transits 2 or 3

Unidentified Soviet-made transit... 1

Wild levels 3 or 4

Zeiss levels 3 or 4

Unidentified German-made camera
for photographing bench marks and
triangulation monuments for inclu-
sion in reference files 1

Binoculars 8 to 10

Unidentified German-made plani-
meters 10

Unidentified German-made panto-
graphs 2 to 4

Unidentified hand compasses Unknown number

Polish-made blue-print machine,
utilizing ammonia process. This
was manufactured in WARSAW by a
pre-war firm 1

CONFIDENTIAL

CONFIDENTIAL

-11-

25X1

4. Reference Manuals

Neither POPM or its Gdansk Branch had any classified reference material. The manuals which were kept at the Gdansk Branch included the following:

a. Instructions of GUGiK (Instrukcja GUGiK)

This was a set of eight soft-cover volumes; each volume was devoted to a separate phase of surveying. The separate volumes, which included a general introductory volume, dealt with triangulation, leveling, traverse surveying, city and town plans, plane table surveying, stadia surveying, and forest surveys.

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b. Forest Survey Instructions (Instrukcja Pomiaru Lasow)

This was published by the Forestry Ministry in 1954 or 1956.

c. Instructions for Establishing Forest Boundaries (Instrukcja Ustalenia Granic Lasow)

This reference was also published by the Forestry Ministry, in 1954 or 1956. (Of this item and the one immediately preceding, one was published in 1954 and the other in 1956)

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d. Instructions for Surveying State Agricultural Farms (Panstwowe Gospodarstwa Rolne - PGR)

This was published either by the Ministry of PGR or by the Ministry of Agriculture.

e. Instructions for Surveying State Railroads (Instrukcja Pomiarow Kolej Panstwowych)

This was published by the Ministry of Transportation (Ministerstwo Komunikacji).

5. Training and Educational Standards of Technical Personnel

education in geodetics in Poland was quite poor during the immediate post-war period, but it showed continual improvement and by 1957 it was adequate. Two university-level geodetic institutes, both unidentified: one in WARSAW and the other in KRAKOW, the latter associated with an unidentified mining engineering school. Geodetic high schools (Liceum Geodezyjne) located in POZNAN, LODZ, and BYDGOSZCZ, as well as others in unrecalled cities. Middle school courses in geodetic surveying were two or four years in duration, depending on whether the student had previously completed 10 or 7 years, respectively, of academic schooling.

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Of the technical personnel (surveyors and draftsmen) employed in the Gdansk Branch, most of the 25 to 30 were graduates of geodetic middle schools, 3 were university graduates, and 10 or 12, mostly draftsmen, had completed no geodetic school. Of the three senior surveyors, one was a university graduate and the other two were middle school graduates. Five of the surveyors were old-timers who had had no formal training in geodetic surveying. However, they were generally regarded as competent and efficient workmen, in some cases superior to recent university graduates.

25X1

25X1

CONFIDENTIAL

CONFIDENTIAL

-12-

25X1

At the Gdansk Branch, university-level graduates were presumed to be qualified immediately after graduation to perform work of Class 4, while middle school graduates were regarded as qualified for work of Class 7. (See paragraph 7a below for explanation of work-classification system.)

6. Disposition of Finished Maps and Survey Data

The central archives for triangulation and leveling data were maintained at GUGiK headquarters, while the Delegaturas (see paragraph 1h above) maintained working reference files of these data.

The Gdansk Branch usually made six blueprint copies of all finished work and delivered them to the "investor" (that is, the agency for whom the work was done). [redacted] the maximum number of copies that could be made was 10. The original field notes, computations, and tracings produced at the Gdansk Branch were sent for permanent safekeeping to the Geodetic Section of the City National Council (Miejska Rada Narodowa, Oddzial Geodezyjny) of GDANSK. [redacted] similar geodetic archives were maintained in all provincial capital cities in Poland, and in some other large cities.

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In the case of work done for any military agency, blueprint copies were made only upon the specific request of the "investor". The surveying agency turned over to the military "investor" all original and duplicate field notes, computations, tracings and sketches, and all blueprint copies, if any. Not even triangulation data was retained or forwarded to GUGiK headquarters.

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a. Contracts and Cost Estimates

The "investor" agency, either directly with the Gdansk Branch or through the POPM, or through GUGiK headquarters, requested an estimate on a particular job as specified by the "investor". In some cases, the "investor" even let the Gdansk Branch know how much money they were planning to spend on a project.

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[redacted] If the submitted cost estimate was satisfactory to the "investor", a contract was drawn up and signed, and the work was begun.

In preparing a cost estimate [redacted] was bound by tables and regulations issued by GUGiK headquarters. The rates shown in these tables included all factors of cost, including wages of the survey crews and draftsmen, materials and supplies, transportation, logistical support, wages of supervisory and overhead personnel, and a profit margin. The tables gave the allowable rates in zlotys per man-hour per unit of survey. The unit of survey might be given in hectares for an area survey or in kilometers for a traverse or road survey. The factors reflected in these tables were: (1) The maximum allowable working time in hours per man per unit for different types and scales of surveying work (various orders of triangulation and leveling, traverse surveys, city plans, forest surveys) and the degree of skill required in performing the work. There were eight degrees of skill as listed in these tables: 1A, 1, 2, 3, 4, 5, 6, and 7, in decreasing order. As an illustrative example, [redacted] a tabulation might be in the following form:

25X1

25X1

CONFIDENTIAL

CONFIDENTIAL

-13-

25X1

<u>Unit</u>	<u>Type of Survey</u>	<u>Time Allowed per Unit</u>	<u>Degree of Skill Required</u>	<u>Zlotys/man/hr</u>
Hectare	Forest Survey 1:5,000	12 man-hours	4	6 zlotys

Having determined the gross basic cost estimate, [redacted] applied a coefficient which was based on the degree of difficulty involved in the job. The difficulty coefficients gave consideration to the topography of the area, ground conditions (swamp or dry), complexity of terrain features, ease of access to the area, density of vegetation, number of buildings or structures in the area, and density of vehicular traffic or other disturbing conditions. An area with no difficult aspects would theoretically have a coefficient of 1.00, while an area which presented various difficulties might have a coefficient ranging up to 1.07 or 1.08. [redacted] 25X1

[redacted] chief of section always examined the actual site of every survey job before preparing a cost estimate, in order to assess the difficulties involved. After this assessment, the basic cost estimate was multiplied by the coefficient to give an adjusted cost estimate. 25X1

25X1

25X1

b. Payment of Contracts

The Gdansk Branch never retained payments for the jobs it did. Payment was made by the "investor" to the Gdansk Branch by check, and the check was forwarded to POPM in POZNAN. The Gdansk Branch had an open bank account in GDANSK, to which the POPM transferred the monthly payroll and other necessary funds.

c. Wages

Prior to March 1957, the field crews and draftsmen of the Gdansk Branch were paid a salary. The Gdansk Branch office thereby assumed the risk of loss due to bad weather, incorrect reference data, mistakes on the part of the crews which might necessitate re-doing the work, and other unforeseeable difficulties or bottlenecks. However, in March 1957, a new system came into effect whereby the field crews were allotted the total amount designated for wages in a second cost estimate which was computed for field and drafting work, materials, and gasoline, separately. The total monetary amount estimated for wages, usually 40 to 60 percent of the adjusted cost estimate as submitted to the "investor", would be divided according to differential scales among the surveying and drafting personnel, and spread in monthly increments over the total period of time estimated for the job. The working crews thus assumed the status of contract workers in that they would be paid the same amount of money regardless of the amount of time spent on the job.

Payday was on the first of every month. Every employee received his base pay at this time, and on the 17th of the month received a supplementary pay which was based on a bonus system. The monthly payroll for the Gdansk Branch was about 150,000 zlotys in the summer and about 70,000 zlotys in the winter. [redacted] 25X1
[redacted] the following pay scales, [redacted] a change in basic pay scales 25X1
was taking place as of April 1958: 25X1

The Technical Documentation Section was on a piece-work system (Na Akkord), [redacted] 25X1

25X1

25X1

25X1

25X1

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-14-

25X1

600 zlotys for 5,000 hectares or less

700 zlotys for 5,000 to 10,000 hectares

850 zlotys for 10,000 to 25,000 hectares

1,300 zlotys for 25,000 to 100,000 hectares

[redacted] there might have been a demarcation at 50,000 hectares,
 with a correspondingly higher rate from 50,000 hectares to 100,000 hectares [redacted]

25X1

25X1

7,500 zlotys for 100,000 to 1,000,000 hectares

[redacted] base pay was 900 zlotys per month, but with the piece-work system, he
 averaged about 2,000 zlotys.

25X1

The manager of the Gdansk Branch received about 4,000 zlotys per month.

The surveyors sometimes received 4,000 to 6,000 zlotys per month during
 the height of the summer season, but this dropped considerably during the off-
 season.

The senior surveyors received about 2,500 to 3,000 zlotys per month,

25X1

d. Per Diem

To compensate for increased living expenses incurred while away from
 home, a per diem payment was authorized of 21 zlotys per day per man while working
 in a provincial capital (unless the provincial capital was where the home office
 was located) and 18 zlotys per day per man in all other locations. Hotel rooms
 or other living quarters were paid for on a reimbursable basis.

8. Miscellaneous Technical Geodetic and Surveying Information

25X1

[redacted]

Triangulation points were located on reference maps (1:100,000) which
 were kept in the files of GUGiK headquarters and in the Delegatura offices. Such
 coverage was available for all Poland. Each such map was designated by the verti-
 cal row (Slup) and horizontal row (pas) in which it was located on the master
 catalog, and was divided into nine grid squares which were designated by capital
 letters A to I, although the letter designations were not shown in the grid square:

A	B	C
D	E	F
G	H	I

The actual location of all triangulation stations was designated in pencil or ink
 by numbers (not in sequence), and there was no identification of the order of the
 survey.

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-15-

25X1

[redacted] individual sights could be made at a distance of up to 50 km for first order surveys, 8 to 15 km for second order surveys, and 1 to 3 km for third order surveys.

25X1

In 1952, the only two base references in Poland [redacted], at Borowa Gora and at WIELICZKA, were converted mathematically from the AMSTERDAM, Holland elevation datum to the KRONSTADT, USSR elevation datum. All new surveys were thereafter based on the KRONSTADT datum. [redacted] ne conversion program for old leveling data. [redacted] ne ever-all conversion program to Gauss-Kruger coordinates [redacted] had seen examples of four different coordinate systems in Poland: Gauss-Kruger, Borowa Gora, Wieliczka, and a fourth unidentified one in the Katowice region which [redacted] was a relic from the days of the Austrian hegemony over that part of Poland. However, [redacted] had never seen or heard of Polish maps published after WW II (sic).

25X1

25X1

25X1

25X1

25X1

All maps prepared by the Gdansk Branch were classified "SECRET" if any military installations, ports, POL dumps, railroad stations, or other facilities of military significance were shown. Normally, however, and unless specific instructions were received, military camps, caserns, and installations were not surveyed and were not indicated on the map. The space was left entirely blank and not even the boundaries of the installation were indicated.

Third order triangulation monuments of concrete or cut stone were manufactured in POZNAN and delivered to GDANSK. (See Annex K and L [redacted] sketches of typical monuments and leveling bench marks.) [redacted] these types were probably used also for second and third order triangulation stations.

25X1

25X1

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-16-

25X1

9.
Agencies

Civilians Employed by Polish Surveying

25X1

NAME: Jerzy SZYMONSKI

TITLE: Civilian

25X1

LAST KNOWN ASSIGNMENT: Director of the Department of Planning in GUGIK head-quarters (Main Administration of Geodesy and Cartography) in WARSAW for at least six years

25X1

NAME: Jerzy NEUMANN

TITLE: Civilian

25X1

LAST KNOWN ASSIGNMENT: He had an unknown assignment in the Polish Air Force headquarters in WARSAW. His assignment had some connection with surveying.

25X1

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-17-

25X1

NAME: Tadeusz DOBROWSKI

TITLE: Civilian

25X1

LAST KNOWN ASSIGNMENT: Manager of the Gdansk Branch of the Poznan District Surveying Enterprise of the Main Administration of Geodesy and Cartography (GUGiK). since 1952

25X1

NAME: RAWINSKI, (fmu)

TITLE: Civilian

25X1

LAST KNOWN ASSIGNMENT: Chief of the GUGiK Delegatura in GDANSK since at least 1952

25X1

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-18-

[redacted]

25X1

B. SOVIET ARMY CONSTRUCTION SITE

In August 1956, a crew of the Gdansk Branch made a survey of a small area on the Baltic Sea coast (see Annex M). This survey was made for the purpose of acquiring farm land for military use.

[redacted] it was probably for a Soviet Army installation [redacted] during a visit to this area, construction activity immediately adjacent to it, and the presence of Soviet uniformed personnel.

25X1

The area indicated as 1. on Annex M was enclosed by an upright barbed-wire fence along the highway and along the east side down to the shore. [redacted] Net knew the extent of the fence or the area in the northwest direction. There was a large road sign posted on the side of the highway which stated in Polish "No Stepping" [redacted]

25X1

[redacted] personnel from the Gdansk Branch drove out to this area in order to transmit some instructions to the surveying crew, and as they drove along this stretch of road, [redacted] a Soviet officer, mounted on a motorcycle, emerge onto the highway from a weeded area on the southwest side of the road. Net knowing exactly where their surveying crew was working, [redacted]

25X1

25X1

25X1

[redacted] construction site at a distance of about 200 m from the area in which the surveying crew was working. There was a concrete mixer, a power shovel (Ekskavator), and unknown numbers of bulldozers working in the construction area.

25X1

[redacted] no buildings or other structures within the construction area [redacted]

25X1

In driving past this area [redacted] saw an unidentified antenna projecting from the roof of a small one-story, flat-roofed shack near the highway. (See Annex M for pinpoint location.) The shack was about four meters long and four meters wide, but [redacted] could not state of what material it was built. There were two or three men in Soviet Army uniform in the immediate vicinity of the shack. The antenna consisted of a single upright element, about 1½ to 2 m high, topped by 2 horizontal elements at right angles to each other, about 1½ m long and rotating at about 25 to 30 revolutions per minute (see Annex N).

25X1

[redacted] a loud buzzing or humming sound could be heard coming from the interior of the shack. [redacted]

25X1

[redacted] this installation might be a jamming station

25X1

(Zaglushitel'naya Stantsiya).²

25X1

COMMENT:

25X1

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-19-

25X1

Annex A

PINPOINT LOCATION OF THE GDANSK BRANCH OF POPM

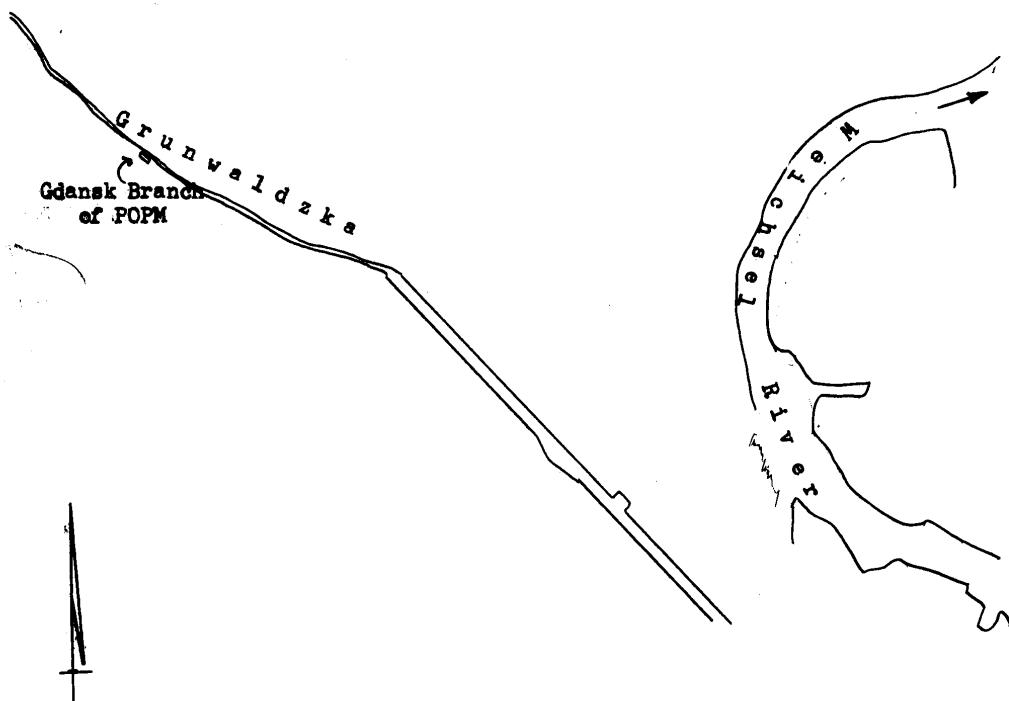
Map Reference:



25X1

Scale 1:25,000

44
30



25X1

47
25

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-20-

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Annex B

ILLUSTRATIVE SAMPLE OF TRIG LISTINGS ON SHEET OF VELLUM PAPER (21 x 25 cm)							
S 30 P 25, Lit B * (Slup 30 Pas 25, Litera B)							
GUGIK	Designation (Norma)	System (Uklad)	Y (In meters)	X (In meters)	Elevation	Remarks	Order (Klase)
	30 Lubrzanski Church or 281 other	Gauss-Kruger	20 300.25	15 250.75			I
	162 place names	- - - - -	- - - - -	- - - - -	- - - - -	Data not available (Brak)	III
							II

Year of Compilation
and Printing

Signature of
Validating Official

*Used for indicating map sheet (by vertical row (Slup) and horizontal row (Pas))
and specific quadrant of the map sheet (by Roman capitals I to IV).

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25X1

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-21-

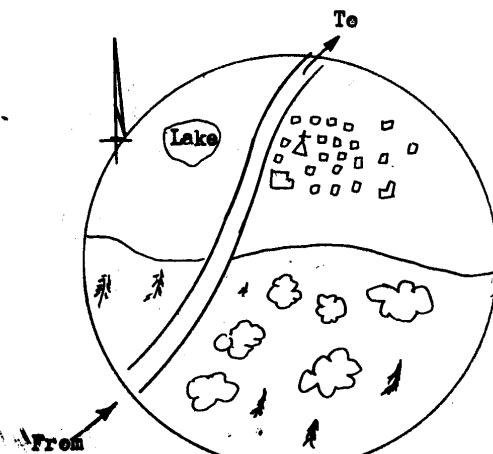
25X1

Annex C

ILLUSTRATIVE SAMPLES OF DESCRIPTION OF TRIANGULATION STATIONS MAINTAINED
IN THE FILES OF GUGIK HEADQUARTERS AND THE DELEGATURAS

Slup 30 Pas 25, Lit B
 Topographic Description of Triangulation Point Nr 30
 (Opis Teopograficzny Punktu Triangulacyjnego Nr 30)

Province: Gdansk
 County: Wejherowo
 Village: CZARNA

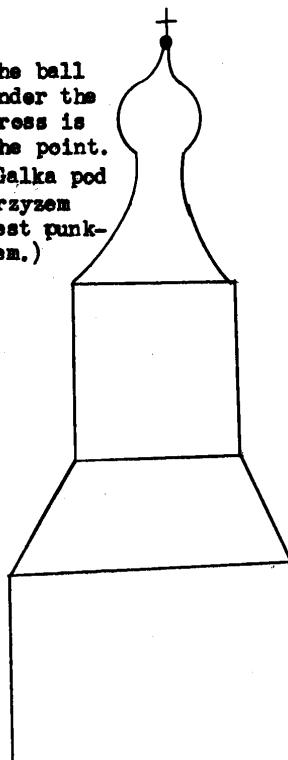


Overlay Sketch
 showing prominent terrain in region
 of Triangulation Station. Usually
 1:25,000, rarely 1:100,000.

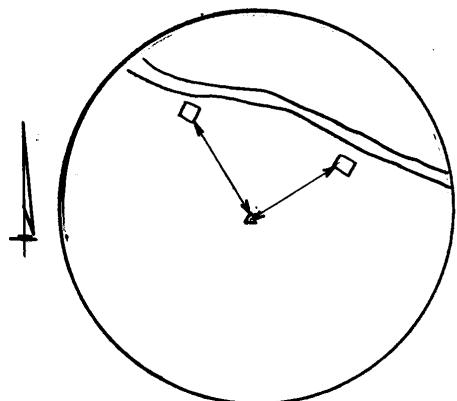
Travel to WEJHEROWO by train.
 From WEJHEROWO to village about 5 km.

Written in-
 structions
 showing how
 to reach trig
 station.

The ball
 under the
 cross is
 the point.
 (Galka pod
 krzyzem
 jest punk-
 tem.)



Sketch of Church on
 which Triangulation
 Station is located.



Distance and direction of
 emplaced monument indi-
 cated from building corners.

Alternate Type of Sketch when
 Station is not a prominent landmark.

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-22-

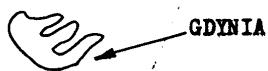


25X1

Annex D

EXTENT OF SURVEY OF THE PORTS OF GDANSK AND GDYNIA

50
—
50



Map Reference:



25X1

Scale 1:100,000



25X1



30
—
40

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Annex E

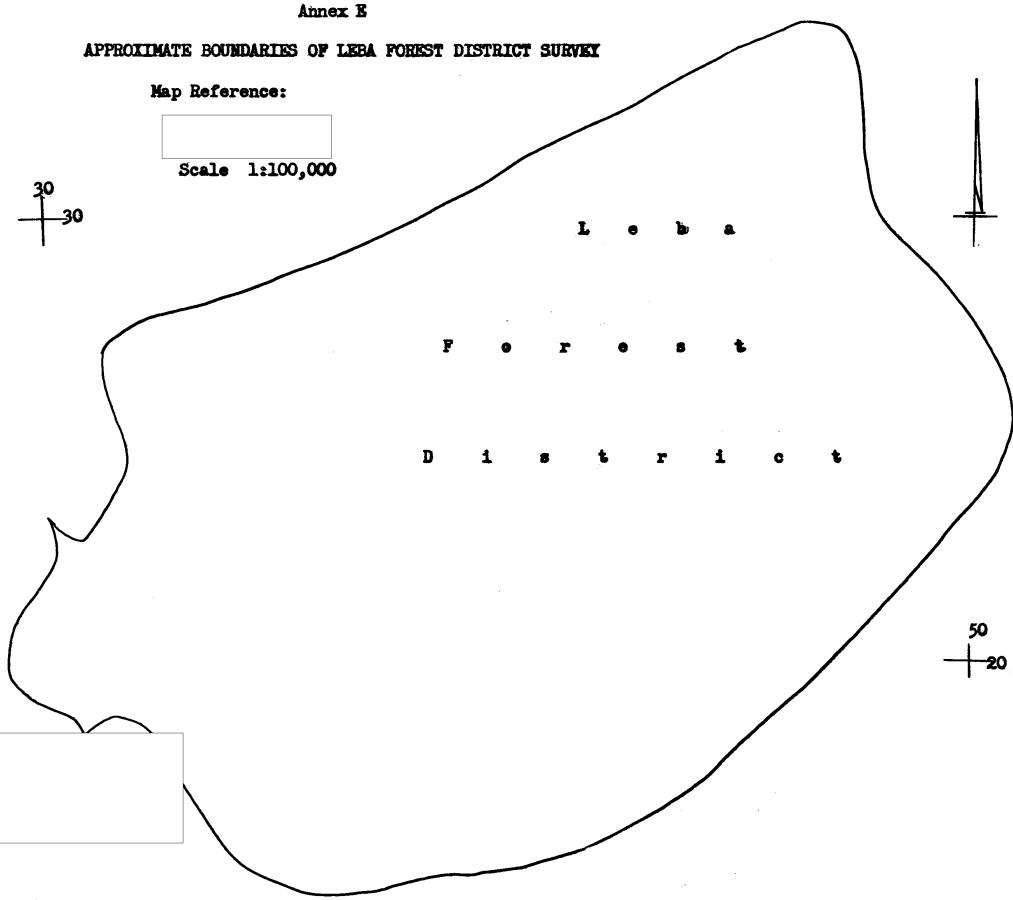
APPROXIMATE BOUNDARIES OF LEBA FOREST DISTRICT SURVEY

Map Reference:



Scale 1:100,000

30
30



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-23-

CONFIDENTIAL

25X1

25X1

50
20

25X1

CONFIDENTIAL

-24-

25X1

Annex F

APPROXIMATE BOUNDARIES OF CEWICE FOREST DISTRICT SURVEY

Map Reference:

25X1

Scale 1:100,000

50
00

C e w i c e

F o r e s t

D i s t r i c t

40
90

25X1

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-25-



25X1

Annex G

APPROXIMATE BOUNDARIES OF BOZEPOL FOREST DISTRICT SURVEY

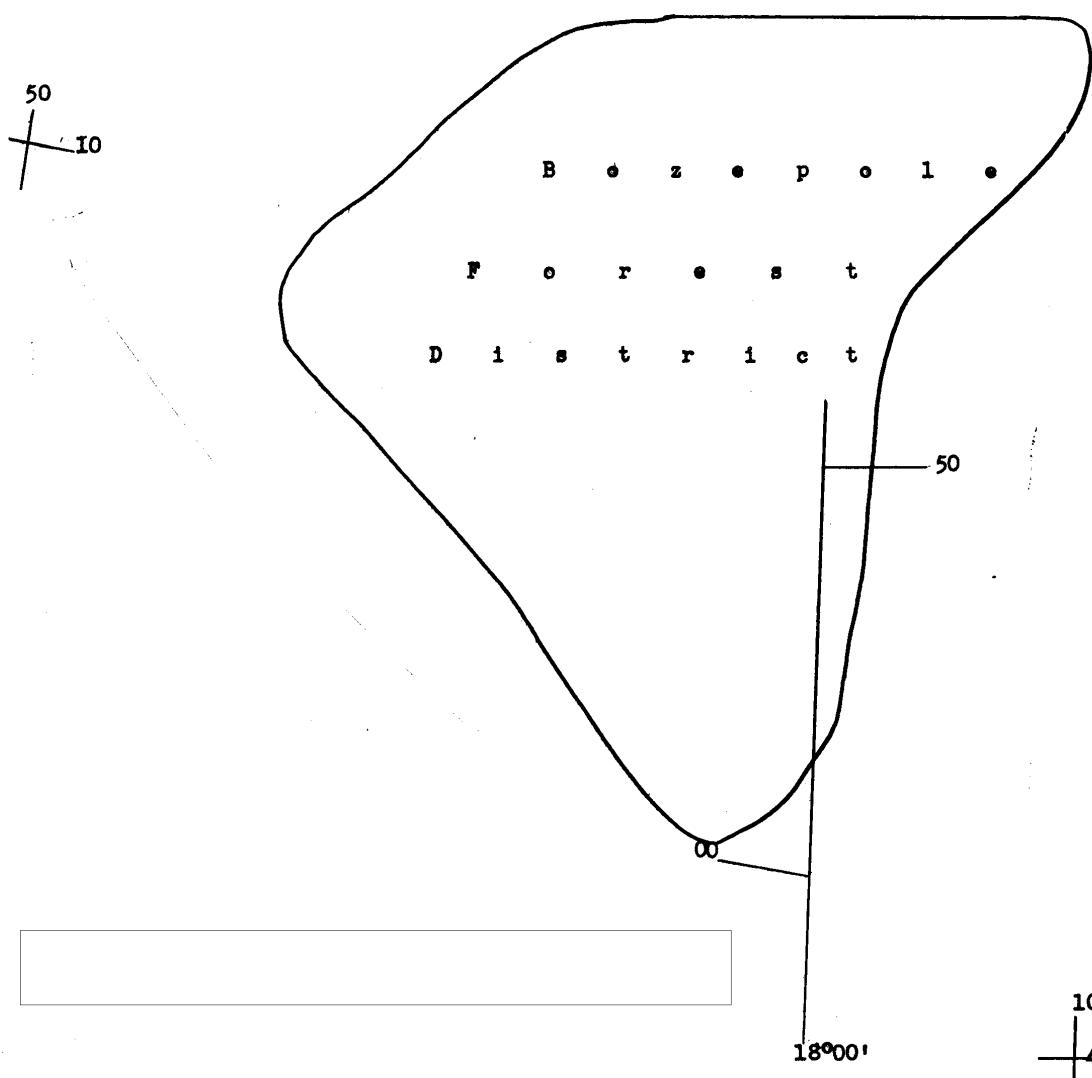
Map Reference:



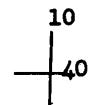
Scale 1:100,000



25X1



25X1



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-26-

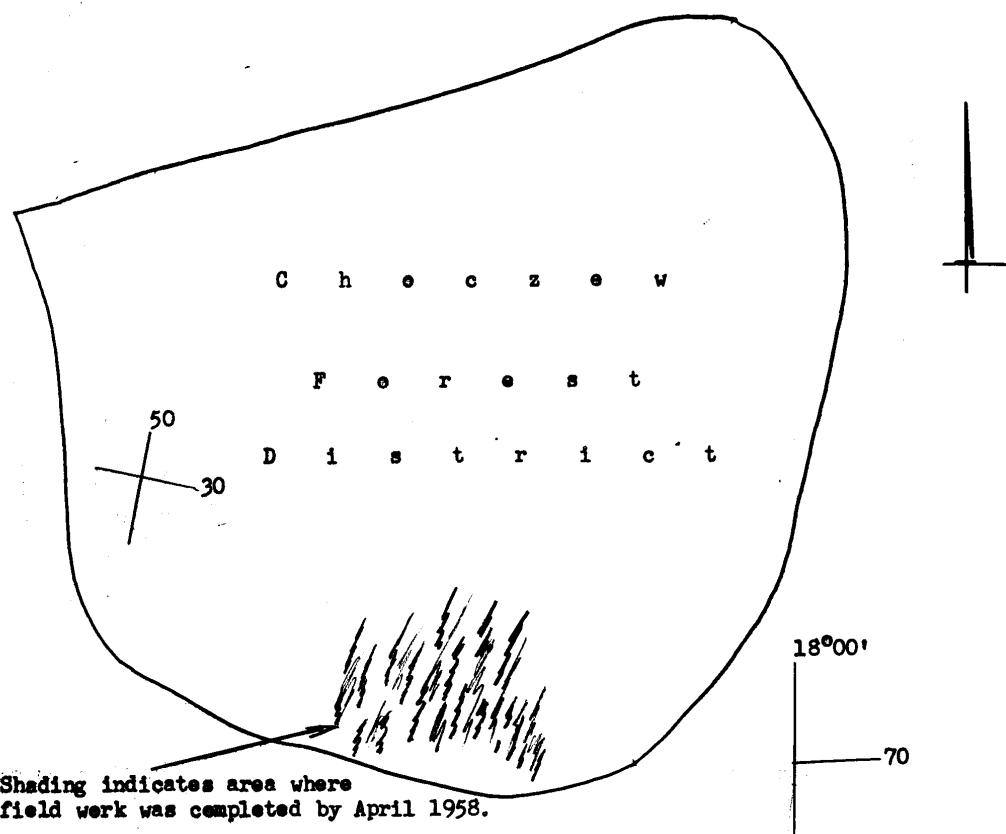
25X1

Annex H

APPROXIMATE BOUNDARIES OF CHOCZEW FOREST DISTRICT SURVEY

Scale 1:100,000

25X1



25X1

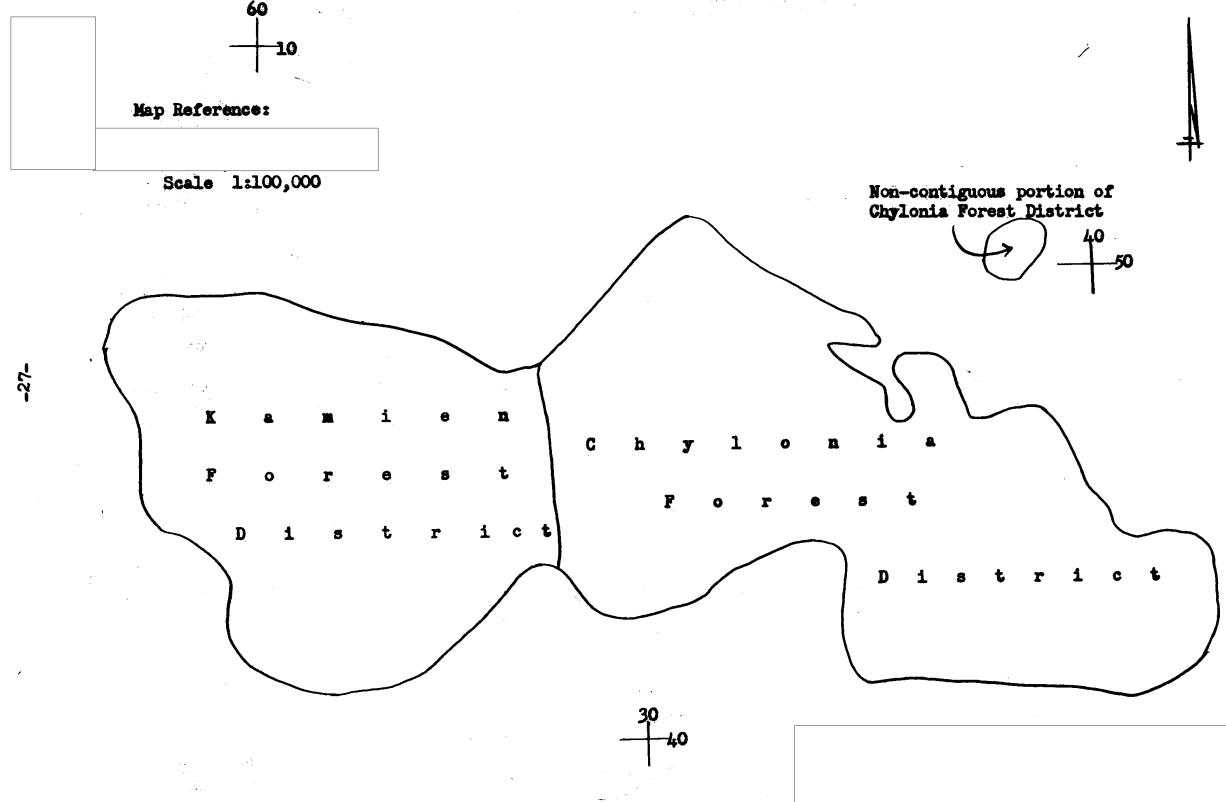
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Annex I

APPROXIMATE BOUNDARIES OF KAMIREN AND CHYLOMIA FOREST DISTRICT SURVEYS



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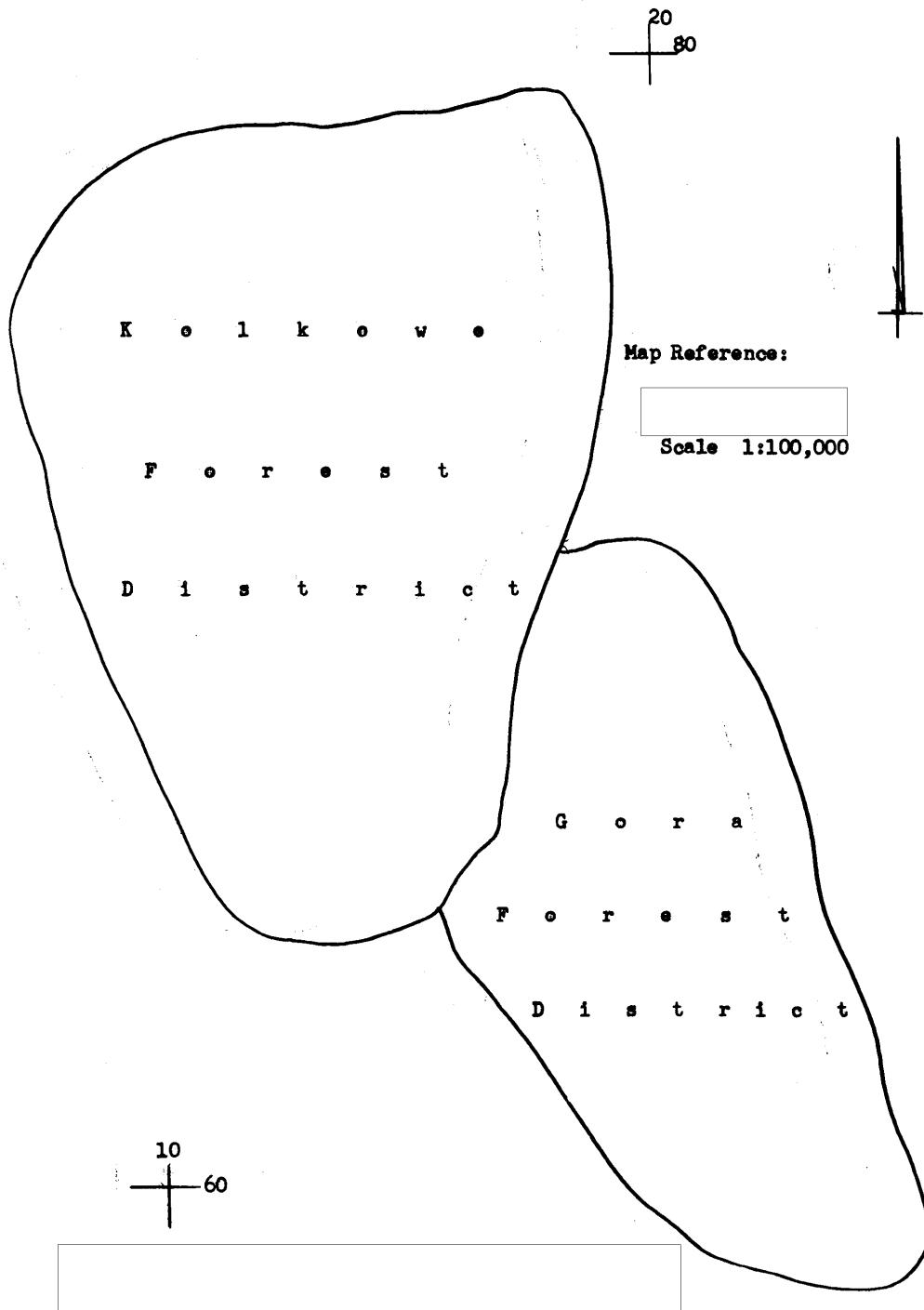
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-28-

Annex J

25X1

APPROXIMATE BOUNDARIES OF KOIKOWO AND GORA FOREST DISTRICT SURVEYS



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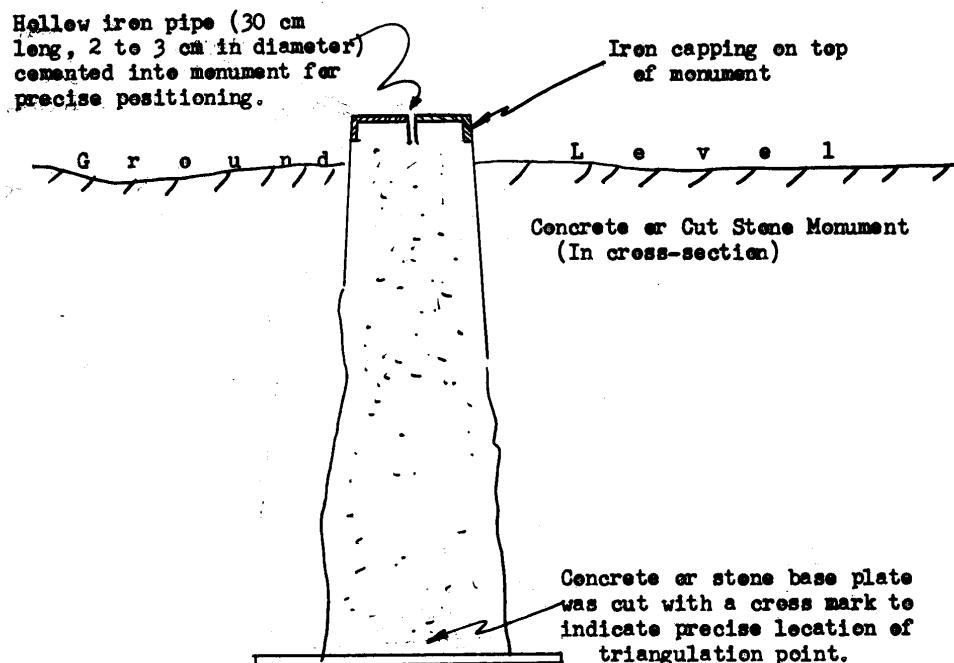
-29-

25X1

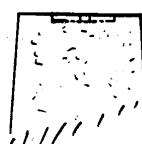
Annex K

SKETCH OF TYPICAL THIRD-ORDER TRIANGULATION MONUMENTS
(POSSIBLY ALSO FIRST AND SECOND ORDER) USED IN POLAND
(Scale: About one-tenth actual size)

25X1



Alternate Type of Monument Top, With No Iron Capping



Top View, showing cross mark cut into top of monument.

25X1

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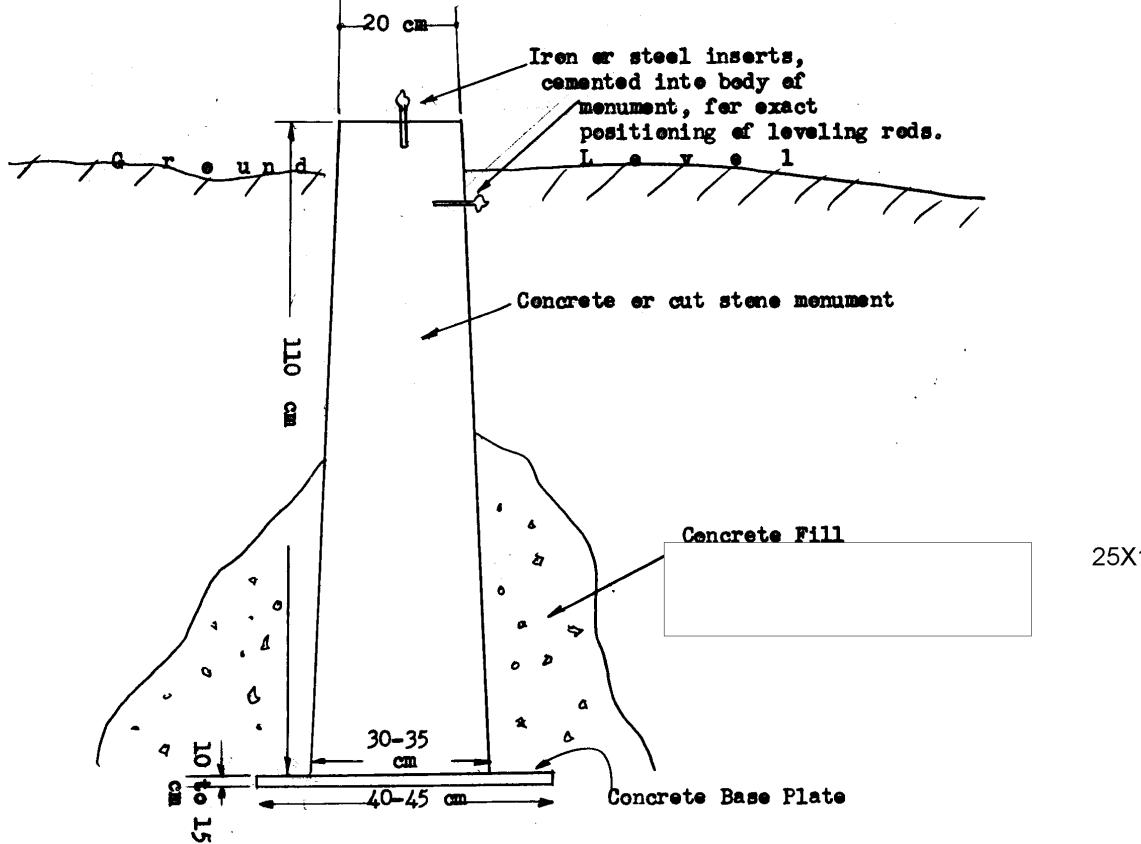
-30-

25X1

Annex L

SKETCH OF TYPICAL LEVELING BENCH MARK USED IN POLAND
(Scale: About one-tenth actual size)

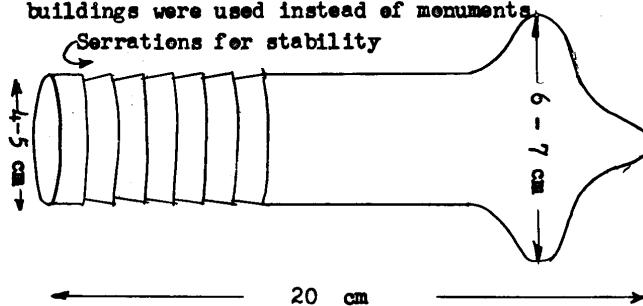
25X1



25X1

Detail of Iron or Steel Insert

Note: This type of insert was also cemented into the exterior wall of prominent buildings, when these buildings were used instead of monuments.



25X1

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-31-



25X1

Annex M

POSSIBLE SOVIET ARMY CONSTRUCTION SITE AND UNIDENTIFIED ELECTRONIC STATION

Map Reference:



25X1

Scale 1:25,000

30
- 80-

Extent Unknown B a l t i c
Possible
Soviet
Army
Construction
Site
S e a
Soviet Army
Dependent
Housing Area
Unidentified Soviet Army
Electronic Station
Area being surveyed
by the Gdansk Branch



34
76 25X1



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-32-



25X1

Annex N

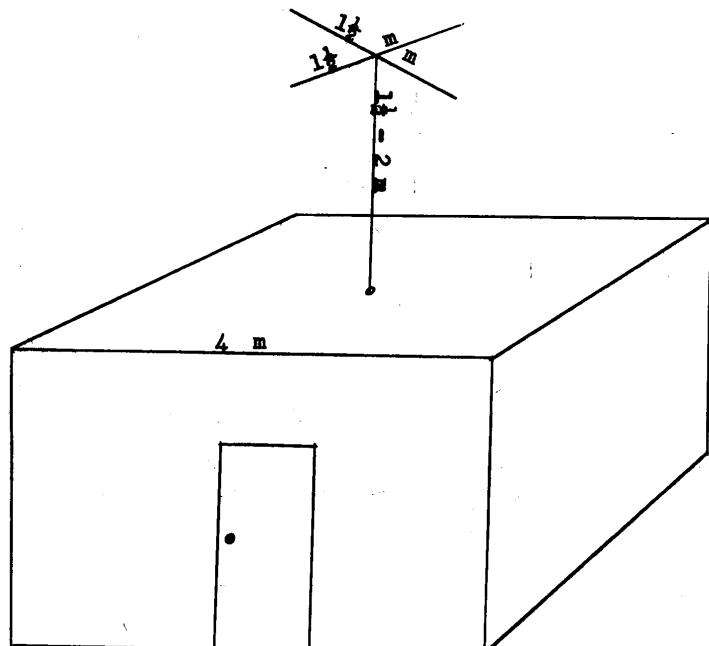
**SKETCH OF UNIDENTIFIED ANTENNA SEEN ON THE BALTIC COAST
OF POLAND**

25X1

(Scale: About 1:50)



25X1



One-Story Shack

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